

REMARKS

Claims 1, 13, 21-22, 24 and 29 are amended herein. Claims 8-9, 14-16, 28 and 30 are canceled, without prejudice. Claims 36-38 have been added. Claims in the instant case are Claims 1-7, 11-13, 18-24 and 26-27, 29, 31-38. No new matter has been introduced.

Allowable Subject Matter

Applicants wish to thank the Examiner for indicating allowable subject matter. The Examiner has indicated that Claims 5, 6, 12 and 34-35 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants respectfully request that the Examiner consider the following discussion which the Applicants believe to overcome the rejections of record.

Claim Rejections

Claims 1, 3-4, 7-8, 11, 13-16, 18-22 are rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent 6,243,074 to Fishkin et al. (hereinafter, the '074 patent) in view of Perline et al "Application of Dielectric Elastomer Actuators (hereinafter, Perline). The rejection to Claims 8 and 14-16 are rendered moot due to the claim cancellations, without prejudice. The rejection to the remaining claims is respectfully traversed for the following reasons.

CLAIM 1

Amended Independent Claim 1 recites, in part:

said electronic muscle material **conforms to the shape** of user's hand for improved ergonomics and wherein said conformance to shape of user's hand generates **contour data** which is used by said processor to identify a user for purpose of user authorization.

As Applicants have amended Claim 1 by incorporating limitations from Claim 9, Applicants will discuss the Bellin reference which was use to reject Claim 9.

Bellin, U.S. Patent No. 4,857,916, does not teach or suggest using contour data to identify a user for purpose of user authorization, as claimed. Claim 1 recites that the electronic muscle material **conforms to the shape** of the user's hand. Claim 1 further recites that the contour data is generated from the **conformance to shape** of user's hand.

Bellin may teach a method based on **pressure** indicative signals (Abstract). Bellin teaches that a user grasps a pressure sensor, which identifies the magnitude and relative location of pressure exerted by the user (col. 2, lines 45-50). The magnitude and relative location of pressure is not the claimed contour data, which is based on **conformance to shape** of user's hand.

Regarding the rejection's characterization of Bellin's sensor as deformable, Applicants respectfully disagree. Moreover, Applicants respectfully maintain that Bellin's sensor does not conform to the shape of the user's hand, as claimed.

Applicants respectfully assert that Bellin does not teach or suggest the concept of conforming to the shape of the user's hand to generate contour data. That is, Bellin teaches that data stored for future comparison is based on the pressure exerted by user grasping a "graspable member" at certain locations. However, there is no teaching or suggest that the graspable member conforms to the shape of the user's hand, as claimed.

Furthermore, in contrast to Bellin's teaching, Applicants note that Claim 1 does not recite that pressure is used to identify the user. Moreover, identifying a user with contour data that is based on **conformance to shape of a user's hand**, as claimed, does not require or imply using pressure data to identify a user as Bellin teaches.

Applicants respectfully assert that the '074 patent and Perline fail to remedy this deficiency in Bellin. Applicants note that the rejection concedes that the '074 patent and Perline do not disclose the conformance to shape of user's hand generates contour data which is used by said processor to identify a user

for purpose of user authorization, as claimed. Therefore, Claim 1 is respectfully believed to be allowable over the combination of the '074 patent, Perline, and Bellin.

CLAIM 13

Amended Independent Claim 13 recites, in part:

wherein said electronic muscle material generates information used by said processor for detecting the placement of user fingers on said electronic muscle material and further wherein said electronic muscle material grows a plurality of function buttons in the proximity of user's fingers responsive to the detection of the placement.

Support for the amendment to Claim 13 can be found in the instant specification at least at page 17, lines 9-15. Applicants respectfully assert that the combination of the '074 patent and Perline fails to teach or suggest, "said electronic muscle material grows a plurality of function buttons in the proximity of user's fingers responsive to the detection of the placement."

In general, the '074 patent may teach a number of ways in which a user may manipulate (e.g., squeeze, fold, curl, etc.) the device to cause certain affects. For example, the '074 patent may teach in Figure 3 that the user may deform one of the pads (124) of a device to affect an object (125) on a display screen. However, the pads (124) are not grown in the proximity of the user's fingers responsive to the detection of the placement, as claimed.

As another example, the '074 patent may teach in Figure 9 that a user may “dogear” a portion (185) of the device to indicate that a bookmark should be associated with a currently displayed page. However, the dogear (185) is not grown in the proximity of the user’s fingers responsive to the detection of the placement, as claimed.

With respect to Figures 38-39, the '074 patent may teach that formatted text (554) may be placed to the right or left of the device’s display unit. However, the formatted text (554) is on a display unit and therefore does not teach or suggest the claim limitation of a function button being a part of an electronic muscle.

For the foregoing reasons, the '074 patent fails to teach or suggest the limitations of Claim 13. Applicants respectfully assert that Perline fails to remedy this deficiency in the '074 patent in that Perline fails to teach or suggest, “said electronic muscle material grows a plurality of function buttons in the proximity of user’s fingers responsive to the detection of the placement,” as claimed. Therefore, Claim 13 is respectfully believed to be allowable over the combination of the '074 patent and Perline.

Dependent Claims

Claims 3-4, 7, 11 and 18-22 depend from Claims 1 and 13 and are therefore respectfully believed to be allowable.

CLAIMS 2 and 23

Claims 2 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the '074 patent in view of in view Perline in further view of Henty (US Patent No. 5,838,138).

Claim 2 incorporates limitations from Claim 1, which is respectfully believed to be allowable over '074 patent in view of in view Perline, as the combination of these references fails to teach or suggest, "the conformance to shape of user's hand generates contour data which is used by said processor to identify a user for purpose of user authorization," as claimed. Henty does not remedy this deficiency as it fails to teach or suggest these limitations.

Claim 23 incorporates limitations from Claim 13, which is respectfully believed to be allowable over '074 patent in view of in view Perline, as the combination of these references fails to teach or suggest, "said electronic muscle material grows a plurality of function buttons in the proximity of user's fingers responsive to the detection of the placement," as claimed. Henty does not remedy this deficiency as it fails to teach or suggest these limitations.

For the foregoing reasons, Claims 2 and 23 are respectfully believed to be allowable.

CLAIM 9

Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the '074 patent in view of in view Perline in further view of Bellin (US Patent No. 4,857,916). The rejection to Claim 9 is rendered moot by the cancellation of Claim 9, without prejudice. Limitations from Claim 9 have been incorporated into Claim 1. Applicants have discussed the prior art used to reject Claim 9 in the response to Claim 1.

CLAIMS 24, 26-29, 31-32 and 35

Claims 24, 26-29, 31-32 and 35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the '074 patent in view of Bellin (US Patent No. 4,857,916). The rejection to Claims 28 and 30 are rendered moot due to the claim cancellations, without prejudice. The rejection to the remaining claims is respectfully traversed for the following reasons.

Amended Independent Claim 24 recites, in part:

a processor of said electronic device processing said information and performing a prescribed function, one said prescribed function comprising forming said electronic muscle material into a shape that aligns with said user hand contour for providing user comfort.

Applicants respectfully assert that the '074 patent in view of Bellin fail to teach or suggest the above limitations. Applicants note that Claim 28 recites that the processor forms the electronic muscle material into a shape that aligns with said user hand contour for providing user comfort.

As previously discussed by Applicants, the '074 patent may disclose several ways in which a user may manipulate the device to cause various effects on the display screen. For example, the '074 patent may teach that the user may stretch the device to resize or rescale an object currently displayed on a display screen. Applicants note that changing the shape of an item on the display screen, as taught by the '074 patent, does not teach or suggest the claimed limitation of forming said electronic muscle material into a shape that aligns with said user hand contour for providing user comfort, as claimed. Applicants further respectfully assert that a user stretching a device does not teach or suggest the claim limitation of a processor forming said electronic muscle material into a shape that aligns with said user hand contour for providing user comfort, as claimed. Further, Applicants have found no teaching or suggestion

in the '074 patent of the claimed limitation of the processor forming said electronic muscle material into a shape that aligns with said user hand contour for providing user comfort, as claimed.

For the foregoing reasons, the '074 patent fails to teach or suggest the limitations of Claim 24. Applicants respectfully assert that Perline fails to remedy this deficiency in the '074 patent in that Perline fails to teach or suggest forming said electronic muscle material into a shape that aligns with said user hand contour for providing user comfort, as claimed. Therefore, Claim 24 is respectfully believed to be allowable over the combination of the '074 patent and Perline.

CLAIM 29

Amended Independent Claim 29 recites, in part:

a battery, wherein stretching and contraction of said electronic muscle material causes charging of said battery based on an change of an electrical property of said electronic muscle.

Support for the amendment to Claim 29 may be found in the instant specification at least at page 16, lines 1-15. No new matter has been added. Applicants respectfully assert that the above limitations are neither taught nor suggestion in the prior art.

Henty's technique for power regeneration is based on a mechanical energy converter that may be, for example, attached externally to a keyboard key. Applicants respectfully assert that there is no teaching or suggestion in the prior art for integrating Henty's mechanical energy converter inside of an electronic muscle, such that energy could be increased based on a stretching and contraction of the electronic muscle.

Moreover, Applicants respectfully assert even if Henty's teaching of a mechanical converter were combined with other prior art, the Applicants claimed limitations would not be arrived at because the Applicants have claimed the that battery is charged based on a change of an electrical property of an electronic muscle, as opposed to Henty's teaching of a change in an electrical property of a mechanical converter. Thus, even if Henty's mechanical convertor were placed inside of an electronic muscle, the claimed invention would not result.

Applicants respectfully assert that the '074 patent and Perline fail to remedy this deficiency in Henty. The '074 patent and Perline are both silent as to recharging a battery based on an change of an electrical property of said electronic muscle caused by stretching and contraction of the electronic muscle material, as claimed.

Therefore, Claim 29 is respectfully believed to be allowable over the cited prior art.

Dependent Claims

Claims 26-27, 29, 31-32 and 35 depend from Claims 24 and 29 and are therefore respectfully believed to be allowable.

CLAIM 30

Claim 30 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the '074 patent in view of in view Bellin in further view of Henty (US Patent No. 5,838,138). The rejection to Claim 30 is rendered moot by the cancellation of Claim 30, without prejudice.

NEW CLAIMS

Claims 36-38 have been added. No new matter has been added. Claim 36 depends from Claim 1 and is respectfully believed to be allowable based on its dependency. Claim 37 depends from Claim 13 and is respectfully believed to be allowable based on its dependency. Claim 38 depends from Claim 24 and is respectfully believed to be allowable based on its dependency.

CONCLUSION

Based on the arguments presented above, it is respectfully asserted that Claims 1-7, 11-13, 18-24 and 26-27, 29, 31-38 overcome the rejections of record and, therefore, allowance of these Claims is respectfully solicited.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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